REMARKS

As a preliminary matter, Applicants thank the Examiner for the Office Action and the search results contained therein. Claims 1-74 are pending. Claims 1, 37, and 67 are independent claims. Claims 1-10 and 12-74 have been amended solely to remove reference numbers. The reference numbers were provided merely as a convenience. The claims are not limited to any particular embodiment merely because of the prior reference to a specific element number. No claims have been added or canceled in this Amendment.

In the Office Action: (1) claims 1-10, 12-17, 30-47, and 61-74 were rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,519,597 to Cheng et al. (hereinafter "Cheng") in view of U.S. Patent No. 6,480,865 to Lee et al. (hereinafter "Lee"); and (2) claims 11, 18-29, and 48-60 were rejected under 35 U.S.C. §103(a) as being obvious over Cheng in view of Lee and further in view of U.S. Patent No. 6,418,448 to Sarkar (hereinafter "Sarkar"). Applicants respectfully traverse these rejections because the Office Action fails to establish a *prima facie* case of obviousness (MPEP 2143) for the reasons discussed below.

Independent Claims 1 and 37

Contrary to the assertions of the Examiner, the combination of Cheng and Lee does not disclose or suggest the functionality of "automatically generating the schema for the relational database from the metadata" which is "extracted" from the "document" itself. Applicants agree with the Examiner's admission that Cheng does not teach automatically generating schema for a relational database (page 4). The Examiner then asserts that Lee (col. 3, lines 45-54 and col. 9, lines 30-38) teaches XML schema that are automatically generated and transformed (page 4). Applicants disagree with the Examiner's interpretation of Lee because Lee's teachings of generating and transforming are entirely unrelated to the claim limitation of automatically generating schema *for a relational database* as recited in independent claims 1 and 37. In contrast to this claim limitation, Lee's teachings are limited to transforming an XML document by merely updating a tree or subtree within the XML document (col. 6, lines 15-22). In Lee, a Java prefix tag within an XML document is recognized and processed by a Java processor to transform a subtree of the XML document (col. 4, line 66 to col. 5, line 4). This is done by instantiating a Java object associated with the Java (DXMLJ) prefix tag (col. 10, lines 49-58). Processing of the Java object produces results that are then used to update the XML subtree (col. 10, lines 61-64). The Java processor then writes out a transformed XML document having the updated subtree (col. 11,

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lines 1-2). This transformation of an XML document using a particular type of prefix tag that is recognizable by a particular type of processor is merely a way to update an XML document using programming steps that are tied to an object identified by a prefix tag within the XML document. In other words, the transformation taught by Lee is nothing more than a way to update a data structure according to a tag within the data structure. To illustrate, Lee discloses an exemplary XML document transformation: salary data within an XML document is converted from dollars to pounds using a Java class "DollarsToPounds" (col. 6, line 64 to col. 7, line 13). Clearly, the simple updating of data within an XML document in no way discloses or suggests the claim limitation of automatically generating schema *for a relational database.*

In fact, Lee teaches away from this claim limitation because the output of Lee's system is merely an updated XML document. The updated XML document replaces the original portion of the document in-place (col. 3, lines45-48). There is no teaching in Lee of the outputted XML document having undergone any transformation that would prepare it for use with a relational database. Lee simply teaches a way to associate programming steps with particular tags within the XML document so that the programming steps can be instantiated to update data within the XML document (col. 3, lines 64-67). Because the updating of data within an XML document as taught in Lee has nothing to do with the automatic generation of schema for a relational database, the art cited (Lee and Cheng) against claims 1 and 37 does not, taken either alone or together, teach or suggest this claim limitation. Therefore, the Office Action fails to establish a *prima facie* case of obviousness against independent claims 1 and 37 because all the claim limitations are not taught or suggested by the prior art (MPEP 2143). Sarkar was cited to disclose an entity relationship diagram relating to XML/RDF and, as such, does nothing to cure the deficiencies of Cheng and Lee. Accordingly, the rejection of independent claims 1 and 37 should be withdrawn, and it is respectfully suggested that claims 1, 37, and their dependent claims (claims 2-36 and 38-66) are in condition for allowance.

Independent Claim 67

Independent claim 67 recites the claim limitation of "an extractor adapted to read automatically a document-type definition that extracts metadata representative of the document-type definition...." Applicants agree with the Examiner's admission that Cheng does not teach this claim limitation (page 11). The Examiner then asserts that Lee (col. 3, lines 45-54 and col. 9, lines 30-38) teaches XML documents, document-type definitions

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(DTD), and XML schema that are automatically generated and transformed (page 11). Applicants disagree with the Examiner's interpretation of Lee. The teachings of Lee are completely silent as to automatically reading a DTD that extracts metadata. As discussed above, the "transforming" taught in Lee is limited to updating a subtree of an XML document, which is merely a way to update data within the XML (col. 6, lines 15-22). Lee's method of dynamically updating an XML document includes no teaching of an extractor adapted to automatically read a DTD that extracts metadata. Because neither Cheng nor Lee teaches this claim limitation, the combination of Cheng and Lee asserted by the Examiner cannot teach it either. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness (MPEP 2143) with respect to claim 67. Accordingly, the rejection of this claim should be withdrawn, and it is respectfully suggested that claim 67 as well as its dependent claims 68-74 are in condition for allowance.

Lee and Cheng not combinable to one skilled in the art

The Office Action fails to establish a *prima facie* case of obviousness for other reasons as well. One of ordinary skill in the art reading either reference and noting deficiencies therein would not have been motivated to seek information to overcome such deficiencies from the other reference because of its irrelevance. "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art." *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed Cir. 1992)." M.P.E.P. § 2143.01. Although the Examiner asserts that Cheng and Lee include teachings that would suggest their combination, this assertion is based on the Examiner's misinterpretation of Lee. Specifically, the Examiner asserts that Lee teaches XML schema and DTD that are automatically generated and transformed (pages 4 and 11) and that such a teaching would suggest the combination of Lee and Cheng. As discussed in detail above, Lee contains no such teaching and is limited to merely updating data within an XML document. Therefore, the Examiner's asserted motivation to combine is based on an incorrect interpretation of Lee's teachings. Accordingly, the Office Action fails to provide a proper suggestion or motivation for combining Lee and Cheng.

Another reason why one of ordinary skill in the art would not have been motivated to combine Cheng and Lee is because the references are directed to solving different problems. Cheng is directed to an XML extender for a computer implemented relational database

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system, which extender extends tables of a relational database with new data types (col. 3, lines 25-38). In contrast, Lee is directed to a process for dynamically updating data within an XML document by using special prefix tag identifiers (col. 4, line 66 to col. 5, line 4 and col. 6, lines 15-22). Lee's teachings have nothing to do with relational databases, much less preparing XML documents and schema for use with relational databases. Because Lee and Cheng include no reasonable suggestion that they can or should be combined, to do so would be an impermissible use of hindsight reconstruction from Applicant's disclosure. *In re Dembiczak*, 50 USPQ2d 1614 (Fed. Cir. 1999).

Therefore, the Office Action does not properly establish a *prima facie* case of obviousness (MPEP 2143). Because the Examiner used the combination of Lee and Cheng to reject each independent claim (claims 1, 37, and 67) of the presently pending claims, this rejection should be withdrawn and it is respectfully suggested that claims 1-74 are in condition for allowance.

The Dependent Claims Recite Patentable Subject Matter

While the dependent claims are patentable as dependents from independent claims 1, 37, and 67, the dependent claims are also independently patentable. Merely by way of example, patentable subject matter recited in several of the dependent claims is discussed below.

A.   Claim 3

Claim 3 recites the claim limitation of "creating at least one default item in the item metadata table." The Examiner cites Cheng (col. 12, lines 35-38) against this claim limitation (page 5). However, col. 12, lines 35-38 of Cheng does not even mention the word "default." In fact, the only mention of the word "default" in Cheng is limited to a default transformation function for use in retrieving an XML document (col. 20, lines 7-15). Cheng's default function is different from and in no way teaches Applicant's default item because using a default function when retrieving an XML document is completely unrelated to creating a default item in the item metadata table. The default item taken in the context of claim 3 is entirely distinct from a default function as taught in Cheng.

Lee also fails to disclose the claim limitation of creating at least one default item in the item metadata table. Lee's only mention of the word "default" is limited to setting a prefix type default at the top of each subtree within an XML document. This disclosure has nothing to do with creating a default item in the item metadata table because a subtree prefix within an XML document is clearly different from an item in the metadata table, especially

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when the default item considered in the entire context of claim 3. Because neither Lee nor Cheng teaches creating a default item in the item metadata table, the Examiner has failed to establish a *prima facie* case of obviousness against claim 3 (MPEP 2143).

Claim 3 is also in condition for allowance for an additional and independent reason: the Examiner appears to have inconsistently interpreted Cheng to reject claims 2 and 3. Inasmuch as the Examiner relies on Cheng's XML_DTD_REF table (col. 11, lines 60-65) to reject Applicants' item metadata table recited in claim 2 and on Cheng's XML Columns Table (col. 12, lines 35-38) to reject the same metadata table recited in claim 3 (page 5), the Examiner has inconsistently applied Cheng against the claims. Accordingly, the Examiner has failed to establish a *prima facie* case of obviousness against either claim 2 or claim 3 (MPEP 2143).

For any one or all of the foregoing independent rationales, claim 3 and its dependent claims (claims 4-29) are in condition for allowance.

B.   Claim 39

Similar to claim 3, claim 39 recites the claim limitation of an extractor that creates at least one default item in the item metadata table. Because the Examiner rejected claim 39 for the same reasons cited against claim 3 (page 8), all the arguments presented above in relation to claim 3 apply equally to claim 39. Therefore, claim 39 and its dependent claims (claims 40-49) are in condition for allowance.

C.   Claim 42

On page 8 of the Office Action, the Examiner rejected claim 42 based on the assertion that claim 42 is essentially the same as claim 6 but directed to a system rather than a method. Applicants respectfully disagree with the Examiner's assertion that claim 42 is essentially the same as claim 6. Claim 6 includes the limitation of creating a default attribute value in the attribute metadata table, while claim 42 recites an extractor that "generates a row in the attribute metadata table corresponding to each of the attribute type content particles of the document-type definition." Clearly, claim 42 includes limitations that cannot be rejected for the same reason used to reject claim 6, and the Examiner has failed to establish a *prima facie* case of obviousness against claim 42 (MPEP 2143). Applicants respectfully request that the Examiner either provide support in the cited art for the rejection of claim 42, or otherwise pass it and its dependent claims (claims 43-49) to issue.

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CONCLUSION

All rejections have been addressed. In view of the above, the presently pending claims are believed to be in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. It is believed that any fees associated with the filing of this paper are identified in an accompanying transmittal. However, if any additional fees are required, they may be charged to Deposit Account 07-2347. To the extent necessary, a petition for extension of time under 37 C.F.R. 1.136(a) is hereby made, the fee for which should be charged against the aforementioned account.

Respectfully submitted,

Dated: July 2, 2004   By _____

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